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ABSTRACT

School youth have been increasingly involved in the dangerous abuse of volatile inhalants. The basic reason to inhale substances is to reach an altered state of consciousness. The 12-17 and 18-25-year-old age groups had the highest rates of inhalant abuse in 1993. Among eighth graders, almost one in five (19%) said they have used inhalants and 5% reported this use during the past month of the study. School personnel should be aware of the characteristics of students who are inhalant abusers, the types of chemicals used, the paraphernalia required to practice "huffing" and the role professional educators must play to combat this silent epidemic. Information on these topics is provided. (JBJ)

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Effects of Chronic Solvent Abuse on Public School Youth

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Effects of Chronic Solvent Abuse on Public School Youth

Harry L. Fullwood & Glenn P. Fournet

School youth have been increasing involved in the dangerous abuse of volatile inhalants. Inhalant abuse caused the death of two teen-agers recently; one from inhaling film cleaner chemicals in a high school photo lab after he reportedly sniffed the substance from toilet paper and the other died in his home from use of an unknown substance (two spray cans of shoe or boot preservative cleaners were found near the victim's body)(Texas Prevention Partnership, 1993). In 1993, an estimated 11.7 million Americans were currently using illicit drugs, meaning they had used an illicit drug in the month prior to interview. This represents 5.6 percent of the population 12 years of old and older. For inhalants, the 12-17 and the 18-25 year old age groups had the highest rates of abuse (1.4 percent and 1.1, respectively (U.S. Department of Health and Human Services, 1994a).

Recently released from the U.S. Department of Health and Human Services, the National Survey Results on Drug Use from The Monitoring The Future Study, 1975-93 (identified as the best single source for population abuse data) suggested increases in inhalant abuse among eighth graders as statistically significant in 1993 (U.S. Department of Health and Human Services, 1994b). Some 8% of 1993 eighth graders said they had use volatile substances in the prior 12 months, making inhalants the most widely used class of illicit drugs for this group of school youth.

Among eighth graders, almost one in five (19%) said they have used inhalants and 5% reported this use during the past month of the study. This was found to be the only class of drugs for which use is substantially higher in eighth grade than in tenth or twelfth grade. Public school youth appear to be making the "huffing" choice at an alarming rate. The tragedy of this is that "huffing" can be deadly. Medical evidence suggests, "A first-time user can die from inhalants. It's like cocaine. You don't know how someone will react, how their heart will react when they are exposed to inhalants!" (Texas Prevention Partnership, 1993)

Fortunately this misuse of common household products by teenager's is gaining national attention. School personnel should be aware of the characteristics of students who are inhalant abusers, the types of

chemicals used, the paraphernalia required to practice "huffing" and the role professional educators must play to combat this silent epidemic.

Defining Inhalant Abuse

Still no appropriate definition of "inhalant" can be found, but the use of inhaled substances for recreational or mood-altering purposes has been recognized since ancient times. The street term "huffing" general means inhaling deep breaths of a volatile vapor with the assistance of some form of paraphernalia, such as a common rag or handkerchief. Many of the products used as inhalants comprise a large group of compounds classified as solvents, thus the term, "volatile solvent abuse" (Texas Commission on Alcohol and Drug Abuse, 1990).

It is common to inhale through the nose or mouth, but sometimes the chemical agents are absorbed directly through the skin or stomach. Common practices associated with inhalant intake include :

- Sniffing and inhaling directly from containers
- Sniffing and inhaling with plastic bags placed over the head
- Sniffing and inhaling from saturated cloth or clothing
- Aerosol inhalation (directly spraying into nose or mouth)
- Inhaling from alternative containers (i.e., balloons or zip-lock bags)
- Inhalation of vapors emitted by heating a volatile substance

(Texas Association on Alcohol and Drug Abuse, 1990)

Common inhalants

The ingredients are common household and commercial products and include gasoline, paints, various glues, and aerosols. Choice of substance to be inhaled is usually made by the abuser based upon availability of products and materials, desired effect to be obtained by the "huffer", and degree of risk associated with possession of the goods.

Inhalants preferred by abusers are regulated by the law, but a majority of inhalant substances can be bought economically and without questioning from many neighborhood stores. Inexpensive, available, commonly found, and safe to have in possession are good reasons for the increasing choice of inhalants as a mode of substance-abuse in school youth. The following list suggests just a few of the common inhalants used :

- Adhesives: airplane glue, rubber cement, PVC cement, false eyelash adhesive, fingernail adhesive and household cements
- Aerosols: paint sprays, hair sprays, deodorants, air freshners and asthma sprays

- **Anesthetics:** gaseous (nitrous oxide), liquid (halothane) and local (ethyl chloride)
 - **Cleaning Agents:** dry cleaning fluids, spot removers and degreasers
 - **Solvents:** polish remover, paint remover, paint thinners, correction fluid and thinners, fuel gas (butane), lighter fluids (isopropane and butane) and fire extinguisher products
 - **Food Products:** whipped cream and whippets (nitrous oxide)
 - **"Room Deodorizers":** Locker Room , Rush and Poppers
- (Texas Association on Alcohol and Drug Abuse, 1990).

Intake of inhalants is usually done quickly, without costing much, and with little opportunity for detection. The equipment used to "huff" is readily available around the house, in the garage, or in the school, for that matter. Typical paraphernalia of inhalant abuse may include:

- Food storage bags
- Clothing
- Containers of all types and sizes
- Aluminum cans
- Paper sacks
- Trash bags
- Glass and/or plastic bottles
- Tablespoons (for use with heated substance)

(Texas Association on Alcohol and Drug Abuse, 1990).

All that is needed to "huff" is the substance to be used, something to contain the vapors, and a few deep breaths. Discovery of a soft drink can or a plastic bag may suggest inhalants but, because of their prevalence is certainly not proof of the act. Therefore, inhalant abuse can be easily disguised due to the widespread availability of the paraphernalia associated with it.

The effects of inhalant abuse

The basic reason to inhale substances is to achieve an altered state of consciousness. However many users do not know that the psychological effects of these compounds can not be predicted (Texas Association on Alcohol and Drug Abuse, 1990). Two similar chemical compounds may also cause very different effects in the user. Some teenagers think that they can try "huffing" or get involved with the process with out danger to their health. While only a few deaths occur as a direct result of inhalant poisoning; a number of individuals do die each year from "huffing." Frequent causes of death include asphyxiation;

suffocation; choking on vomitus; careless behavior in potentially dangerous situations; and "sudden sniffing death syndrome." (Texas Association on Alcohol and Drug Abuse, 1990).

Behavioral signs or symptoms may be observed in youth demonstrating habitual inhalation abuse.

- Short term memory loss
- Emotional instability
- Cognitive impairment
- Slurred speech
- Wide-based ataxic gait
- Loss of coordination
- Mood swing
- Loss of appetite
- Quick to anger
- Passive-aggressive tendency
- Chemical smell in clothing or on breath
- Chemical smell in hair
- Protectiveness toward common objects of administration

(Texas Association on Alcohol and Drug Abuse, 1990)

Causes of inhalant abuse

Like other types of abuse, inhalant abuse (huffing) among adolescents is a response to anxieties brought about by perceived threats in the environment. By altering a youngster's perspective immediate life becomes more palatable. Inhalant abuse also assists in establishing a trustworthy, non competitive relationship between youngsters whose vulnerability is rooted in their early stages of social development. Gatherings for inhaling fills a need, offering unsuspecting, pleasant and relatively easy social experiences so valued in modern societies where competitive and aggressive social experiences abound.

The tension of the adolescent push for independence in an atmosphere of the protective concerns of parents found in many families provides fertile ground for inhalant abuse. For the adolescent, altered states of consciousness brought on by inhalant abuse provides a vehicle for maintaining homeostasis in the family and their larger social environment.

Techniques and strategies of prevention.

The one absolute that can be mentioned about prevention of inhalant abuse is that reducing agent availability is not feasible as a

preventive measure. As noted above there are a wide variety of common agents found in most ordinary house hold chemicals which when inhaled can bring about changes in mood and states of consciousness. In addition delivery vehicles can be as common and as legal as the ordinary empty soft drink can.

What may be a more fruitful approach is to encourage professionals who most interact with adolescents to be aware of the signs of huffing. Teachers for example can become unwitting enablers when they fail to monitor student use of common agents available in most schools such as white out.

Education programs focusing on the serious detrimental effects of inhalant abuse offered through the school system for special populations can be most effective. Such populations could include children of alcoholics, abuse victim and children of dysfunctional families. In doing this, educators need to be aware of the dangers of the Pygmalion effect (Rosenthal and Jacobson, 1968) which involves labeling children and then using the label as the basis for interaction with the student rather than what the student is doing.

In addition, education programs should target students at periods in their lives when they are most vulnerable to trying new experiences. Examples of these might be when students experience change such as entering middle school , entering high school or beginning to drive automobiles.

Confronting abusers

For youngsters already involved in inhalant abuse, efforts should focus on assisting them to decide to seek help in order to prevent further damage that can accompany huffing. In this endeavor use of significant others, those who personally know and have a history of caring for the abuser, in confronting him/her can be effective particularly when facts are the focus of the confrontation.

Care should be given to exhibit genuine warmth and concern in confrontation. Abusers typically have predominately experienced anger and hostility from many around them. Concern presents an atmosphere that is unexpected and therefore in many cases offers an opportunity for reaching the abuser.

Effective communication needs to be clear, precise, human and matter of fact. An excellent rule of thumb is to focus on behavior and the concrete effects of that behavior. While it is easy to become a

prosecutor in these circumstances, that tact is unproductive and may drive the individual further towards his/her proclivity for huffing.

Commonly rationalization is a response of choice by individuals being confronted. When rationalization rears its head, focus should be returned to specific concrete effects of the abuse in their lives. An excellent response is to propose an awareness of the import of the abusers assertion yet at the same time noting the specific problems in the abuser's life associated with the abusive behavior.

Two specific themes should be expressed to the abuser seeking help. First, whereas one is tempted to "over sell" treatment realistic hope should be the base of the discussion. Sure fire cures are non existent, but those who seriously work at treatment can reconstruct their lives. Second, while substantial effort on the part of the abuser is required for successful life change, trying to go it alone rarely works. In other words, abusers require help to break the habit.

On many occasions the abuser may be reluctant to respond positively to the intervention. In these cases options should be left open for future action. The decision should be left to the abuser because in reality if there is not commitment for change in the abuser, little hope for successful completion of treatment can be expected.

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